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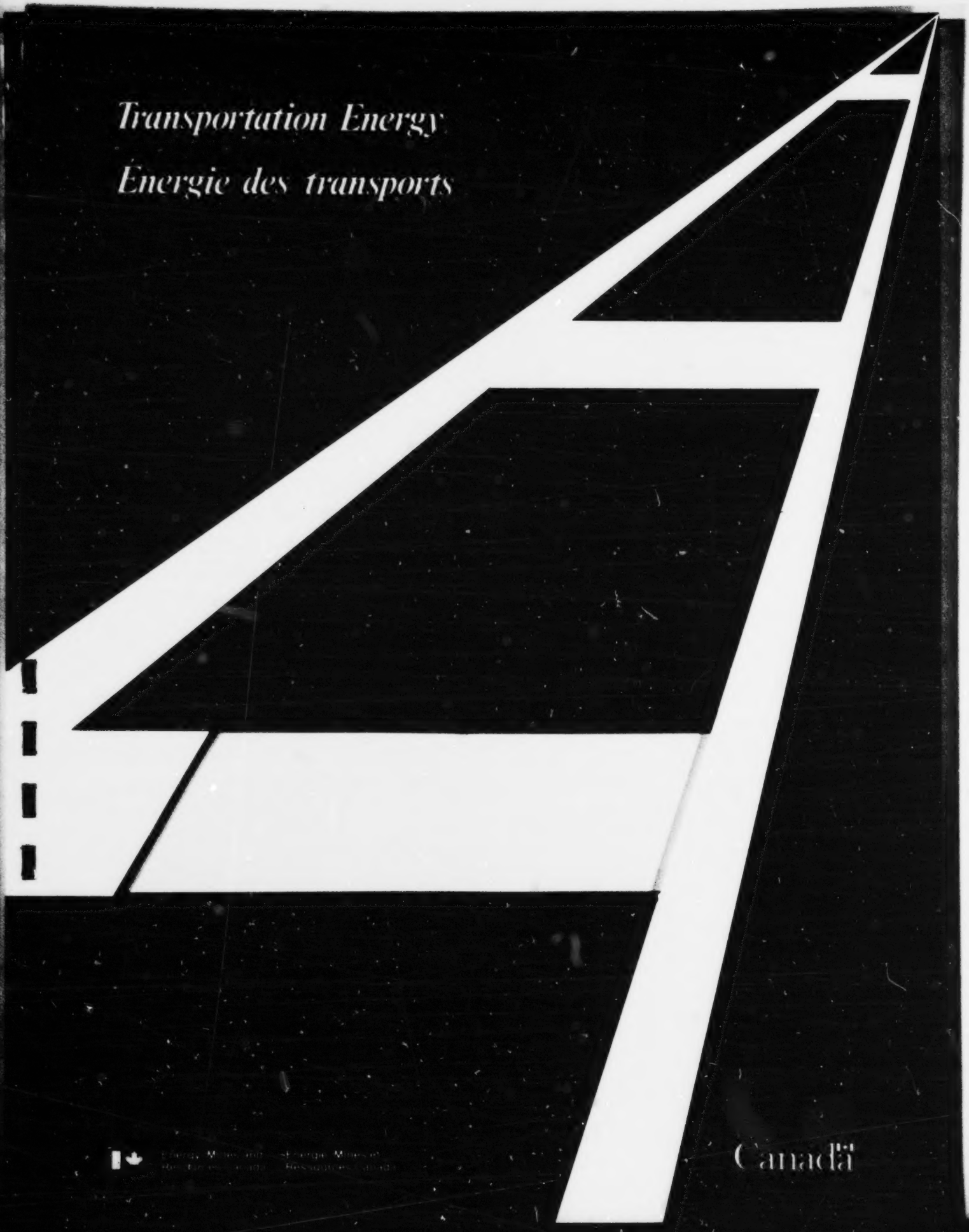

Canada

PROPANE VEHICLE CARBURETION MARKET DEVELOPMENT 1980-1984

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April, 1985

Report # TE 85-1

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INTRODUCTION

This report is an update of the March 1984 report entitled "Propane Vehicle Carburetion - Market Development 1980-83". Once again we are reviewing key aspects of the propane carburetion market and are focussing specifically on market growth, consumer characteristics, industry activity and growth, consumer reactions to propane, and propane pricing. This report includes information derived from the following sources: Propane Vehicle Program data, telephone interviews with key industry persons, and information generated within Energy, Mines and Resources.

EXECUTIVE SUMMARY

Propane Vehicle Program statistics indicate that 31,002 applications for 49,866 vehicles were received by December 31, 1984. The manufacturer-wholesale industry has been responsible for the largest proportion of vehicle conversions, and the most common types of vehicles converted are pick-ups and light vans. Approximately 80% of the vehicles included in Program statistics were converted after the vehicle had been purchased.

The industry survey revealed that a total of 89,400 propane tanks had been sold in Canada by the end of July 1984, with an estimated 15% being manifolded. Tank sales increased slightly between July 1983 and July 1984. All propane tanks are now manufactured in Canada. The vehicle manufacturers are playing an increasingly important role in the development of the propane vehicle industry, and had sales of 8,964 propane vehicles to the end of July, 1983. The ten largest conversion companies identified through Program data completed 59,980 conversions to the end of July, 1983. On the basis of all of the foregoing information, it was estimated that as of July 1984 there were approximately 76,000 vehicles operating on propane in Canada. Data as of October 31, 1984 indicates that there were an estimated 80,500 propane vehicles operating at that time.

The industrial growth factors that were considered show a definite increase from 1983 to 1984. During that period the number of conversion centres in Canada (according to Program data) rose from 1357 to 1843, and according to the Propane Gas Association of Canada, the number of fueling outlets increased by 20%. National Energy Board figures indicate a 45% increase in the amount of propane sold for vehicle use.

To summarize the propane supply situation, forecasts show that Canada will have adequate supplies of propane to meet its requirements for the foreseeable future. On the demand side, while growth is forecast, (especially for transportation purposes), it is expected to remain sufficiently below available supply to provide a comfortable cushion.

The price spread between propane and gasoline has continued. Retail propane prices have been further assisted in Ontario, British Columbia and the Northwest Territories by remission of the provincial road tax.

I. The Propane Vehicle Program

The Program ended on March 31, 1985. Although the number of vehicles for which contributions have been paid is below the target initially set, there were approximately 2000 propane vehicles on the road in Canada before the Program began in 1980 compared with more than 80,000 now. Much of the credit for this growth goes to the industry, but from various surveys that have been carried out, it would appear that the Propane Vehicle Program has been a positive influence in this development. Termination of the Program should not be viewed as an end to federal government support of the fuel. In the absence of a grant, appropriate means of federal support are being studied.

1. Program Activity

At the end of July 1983, contributions had been paid for 23,683 vehicles. As of July 31, 1984, the number had risen to 41,237 vehicles. By December 31, 1984 a total of 49,866 vehicles had qualified under the Program. This is approximately 66% of the target number for that date. A break-down of Program figures for December by provinces is shown below.

It should be noted that as of April 1, 1984 the eligibility criteria of the Program were expanded to include both non-commercial and dual fuel vehicles. Before that date many conversions to dual fuel had taken place, but these were not eligible for the grant, and are therefore not included in the program statistics in the following tables.

FIGURE 1. TOTAL PROGRAM FIGURES TO DECEMBER 31, 1984

Province	Applicants	Vehicles	% of Total No. of Vehicles
Maritimes	49	116	.2
Quebec	813	1,929	3.9
Ontario	16,371	27,118	54.4
Manitoba	958	1,436	2.9
Saskatchewan	912	1,206	2.4
Alberta	7,079	10,903	21.9
B.C.	4,808	7,145	14.3
Yukon & N.W.T.	12	13	-
	31,002	49,866	100.0

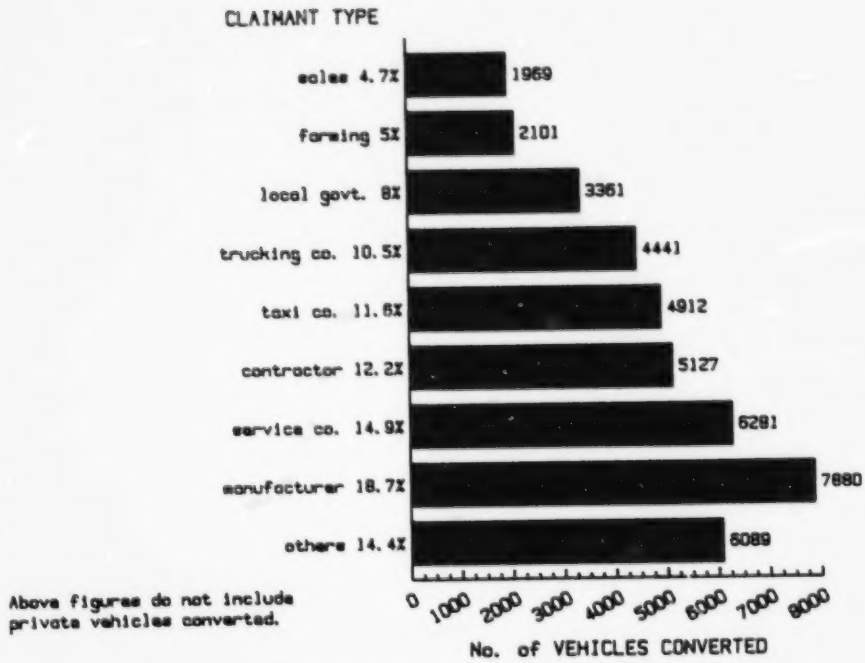
Approximately 58% of the total number of the applications received up to December, 1984 were from the east (Ontario and Quebec) and 42% from the West (Prairies, Alberta and B.C.). This shows a change in distribution from December 1983 when the totals were 63% in the east and 37% in the west. As these figures are cumulative, this is a noticeable shift.

2. Market Profile

The Program data includes a breakdown of claimant types as indicated in Figure 2. There could be a slight margin of error in this data as applicants may misunderstand the claimant categories when filling out their application form.

FIGURE 2.

PROPANE VEHICLE PROGRAM
Vehicles Converted by Claimant Type
October 1980 - 31 December 1984



Program statistics suggest that the manufacture-wholesale sector is still the largest claimant group, followed by the service industries, taxi companies and trucking companies respectively. In comparison, trucking companies converted more vehicles than taxi companies in 1983.

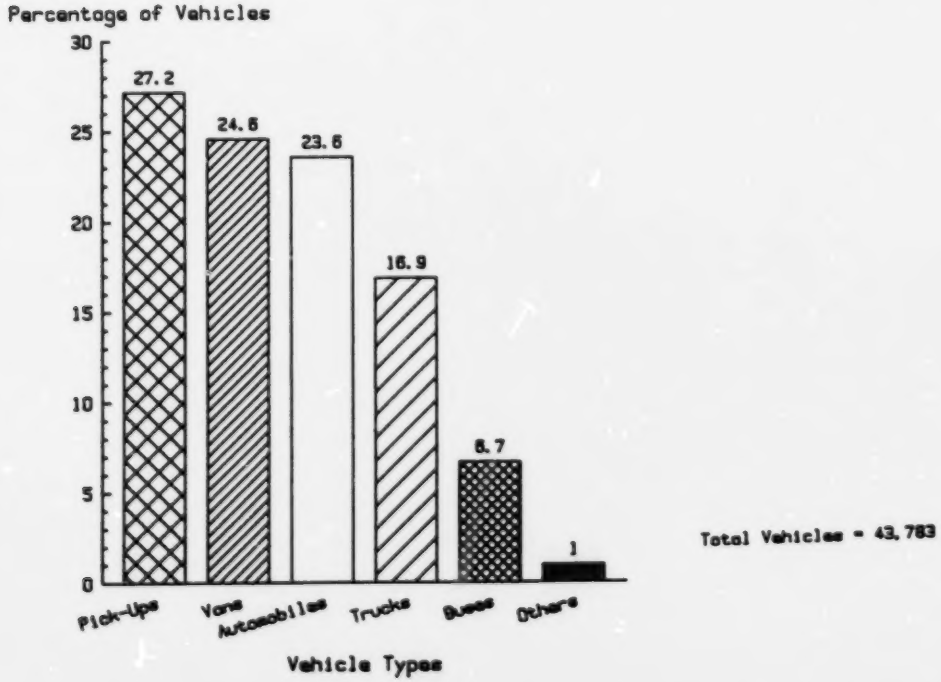
The following is a breakdown by vehicle type to December 31, 1984 showing the percentage each vehicle type represents of the total number of vehicles converted under the Program.

FIGURE 3:
PROPANE VEHICLE PROGRAM
VEHICLES BY VEHICLE TYPE TO DECEMBER 1984

Automobiles	4 cylinder (Class I)	3.3%
	6 cylinder (Class I)	4.4%
	8 cylinder (Class I)	15.9%
Pick-ups	under 6,000 lbs GVW (Class I)	17.5%
	over 6,000 lbs GVW (Class II)	9.7%
Vans	under 10,000 GVW (Class II)	22.0%
	over 10,000 GVW (Class III)	2.6%
Trucks	under 10,000 lbs GVW (Class II)	5.0%
	under 14,000 lbs GVW (Class III)	3.7%
	under 16,000 lbs GVW (Class IV)	1.3%
	under 19,000 lbs GVW (Class V)	1.7%
	under 26,000 lbs GVW (Class VI)	2.2%
	under 33,000 lbs GVW (Class VII)	2.2%
	over 33,000 lbs GVW (Class VII)	.8%
Buses		6.7%
Other Vehicles		1.0%

A graphic illustration summarizing each type of vehicle follows:

FIGURE 4
PROPANE VEHICLE PROGRAM
Conversions by Vehicle Type
October 1980 to December 31, 1984



The following table shows a breakdown for single and dual fuel vehicles, as well as commercial and private vehicles, all by province and by claimant type. This is for the time period April 1, 1984 to December 31, 1985 because private and dual fuel vehicles became eligible as of April 1st, 1984. During that nine month period, single fuel vehicles accounted for 90% of the total and dual for 10%. Commercial vehicles made up 82% of the total and private vehicles 18%.

FIGURE 5

PROPANE VEHICLE PROGRAM
CONVERSIONS BY VEHICLE TYPES (INCLUDING PRIVATE USE AND SINGLE/DUAL FUEL)

APRIL 1, 1984 TO DECEMBER 31, 1984

S= Single Fuel
D= Dual Fuel

	TAXI 1		TRUCKING 2		MANUFACTURER WHOLESALER RETAILER 3		CONTRACTOR 4		SERVICE INDUSTRY 5		SALES 6		FARMING 7		GOVERNMENT 8		OTHER 9		PRIVATE 10		NOT SUPPLIED 11	
PROV.	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D	S	D
N.S.									5	0												
N.B.			1	0	2	0	1	0	6	0							2	1	2	0		
PEI									0	1												
QUE	16	5	43	2	55	1	20	3	134	1	6	3	2	0	11	0	41	0	10	7	6	0
ONT	954	39	213	6	901	71	573	45	879	49	175	38	73	26	469	1	1009	36	434	375	139	5
MAN	57	1	71	8	104	11	31	2	56	2	13	2	3	0	21	0	57	0	29	12	8	0
SASK	82	7	16	5	29	7	38	9	28	4	14	3	28	4	14	1	28	2	41	36	8	0
ALTA	238	41	221	18	402	21	550	44	434	33	118	8	135	16	168	0	351	19	848	218	197	1
BC	434	8	189	2	260	16	542	27	334	18	59	6	73	8	147	3	261	5	623	178	180	2
NWT					0	1	0	1	0	1							2	0				
YUK																						
TOTAL	1781	101	754	41	1753	128	1756	130	1877	108	385	60	314	54	830	5	1751	63	1987	826	538	8

TOTAL	SINGLE FUEL VEHICLES	13,726 (90%)
	DUAL FUEL VEHICLES	1,524 (10%)
		15,250

TOTAL	COMMERCIAL VEHICLES	12,437 (82%)
	PRIVATE VEHICLES	2,813 (18%)
		15,250

Figures 6 and 7 divide vehicle conversions according to whether the conversion was done before or after purchase of the vehicle, or if the equipment was factory installed. This is of particular interest in Ontario (figure 7) where the 7% sales tax is reimbursed for new propane vehicles and for vehicles converted within a month following the purchase. In that province, "factory installed" and "before purchase" conversions account for 30% of the total number of vehicles in the Program, compared with the national figure of 21% for those two categories.

FIGURE 6

PROPANE VEHICLE PROGRAM
Conversion Types
October 1980 - 31 December 1984

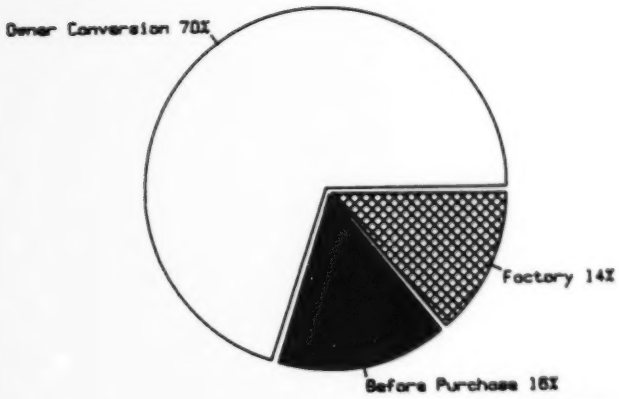
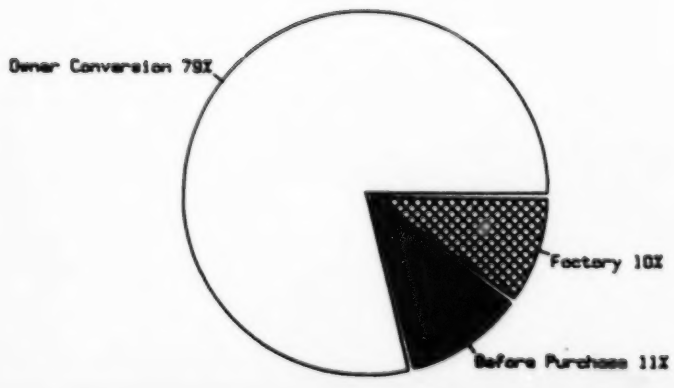


FIGURE 7

PROPANE VEHICLE PROGRAM
Conversion Types for Ontario Only
October 1980 - 31 December 1984



Analysis of Program data also provides the following information:

1) 30% of the conversion companies entered on the Program information system have been in business longer than one year, and 70% have been in business for less than one year.

2) Approximately 18% of the applications received are for vehicles owned by Program clients who have already converted at least one vehicle.

3) 70% are from fleets of fewer than 20 vehicles.
53% of the vehicles are from fleets of fewer than 10 vehicles, and
18% of the vehicles are from fleets of fewer than 5 vehicles;

4) If 2 or more vehicles are considered to be a "fleet",
18% of the Program clients have converted more than 50% of their fleet, and 63% have converted less than 25% of their fleet.

5) The cost of conversion has declined slightly over the past few years, the national average in 1981 being $1,599 and the national average in 1984 being $1,416 ($1,150 in 1981 dollars). This is likely due to more components of the conversion kits being produced domestically, and to increasing volumes.

II PROPANE VEHICLE POPULATION

Industry Survey

Statistics collected through the Propane Vehicle Program accurately reflect the number of commercial propane dedicated vehicles that received the $400 federal contribution up to April 1984, and the number of both single and dual fuel, commercial and privately owned propane vehicles for which the grant has been paid from April 1, 1984. In order to estimate the total number of propane vehicles on the road in Canada at this time, the same procedure was followed in this survey as in the previous one. An officer of the Propane Vehicle Program interviewed Canadian tank manufacturers, the major conversion companies and vehicle manufacturers regarding annual sales figures for propane. Statistics were obtained to July 31, 1984 (as the previous survey was to July 31, 1983), and to October 31, 1984.

a) Tank Sales

FIGURE 8: TANK SALES DISTRIBUTION BETWEEN 1979 AND 1984

YEAR	CANADIAN MANUFACTURERS	CANADIAN IMPORTERS	TOTAL SALES
Aug-Oct 1984	5,103	-	5,103
Aug 83-July'84	24,918	-	24,918
1983(to July)	13,450	1,300	14,750
1982	15,100	9,700	24,800
1981	9,880	11,200	21,080
1980	nil	2,050	2,050
1979	350	1,450	1,800
TOTAL	69,001	25,700	94,501

Figure 8 shows that as of the end of July, 1984, the number of propane tanks sold in Canada for vehicle use was 89,398, and as of the end of October 1984 this figure had risen to 94,501. Tank manufacturers indicated that approximately 15% of the tanks sold overall are manifolded. 55% of the tank sales reported since August 1983 were in Eastern Canada and 45% in Western Canada. For comparison purposes, the breakdown the previous year was 60% in the east and 40% in the west.

It is also worth noting that all propane tanks are now manufactured in Canada.

When asked whether there are more buyers than in previous years, the tank manufacturers stated that there are fewer installation companies but with a larger composite volume of business. It would appear that a number of the smaller operations have left the market. Three of the four manufacturers interviewed reported that their business had increased over the past year, and two of the three expect this trend to continue.

b) Vehicle Manufacturers

The models of propane vehicles available from the vehicle manufacturing companies are listed in Appendix I.

1983 model year sales have been amended from the previous survey results, and 1984 model year sales are included as well.

FIGURE 9: PROPANE VEHICLE MANUFACTURERS' SALES VOLUMES

Vehicle Manufacturers	Sales Figures			
	1984	1983	1982	1981
Chrysler	1072 cars 691 vans 218 light trucks	600 cars 350 vans 200 trucks	150 cars 140 vans 260 trucks	- - -
Ford	279 cars 332 light trucks 41 heavy trucks	236 cars 425 trucks	550 cars 300 trucks	300 trucks
GM	256 pick-ups			
International Harvester	34 medium trucks	180	500	250
Lada	400	200	1,000	-
TOTAL NO. OF VEHICLES	3,323	2,191	2,900	550

A total of 8,964 propane vehicles were sold to the end of the 1984 model year. International Harvester does not intend to continue producing propane vehicles, and Ford will not be producing propane passenger cars in the 1985 model year. Overall, 1984 sales were 52% higher than 1983 sales.

c) Conversion Centres

The results of the survey of the vehicle conversion industry were based on the ten companies with the largest share in overall conversion activity, as identified through the Propane Vehicle Program data. As in the previous survey, the six largest firms represented 90% of the total conversions reported. The results are:

	NO. OF CONVERSIONS
August-October, 1984	3,330
August 1983-August 1984	13,180
October 1980 to July, 1983	46,800
	63,310

Those installers who also service propane vehicles were asked which problems are most common. There was a marked difference in the responses this time compared with the previous survey. Cold weather starting did not appear to be a problem any longer, and there were significantly fewer problems pointed out overall during the interviews. Replacing conversions that had been poorly done was mentioned, as was a lack of knowledge which can lead to owner neglect of the vehicle. For the most part, however, the servicing of propane vehicles appears to mainly involve regular maintenance.

CONCLUSION

Figure 10 summarizes the figures on tanks, conversions, vehicle manufacturers and the Propane Vehicle Program. These will include the figures from the previous survey to July, 1984 and to October, 1984.

FIGURE 10
SUMMARY OF PROPANE VEHICLE ACTIVITY 1980-84

	TOTAL TO JULY 1983	AUGUST 1983 TO JULY 1984	TOTAL TO JULY 1984	AUGUST 1984 TO OCTOBER 1984	TOTAL TO OCTOBER 1984
Propane Vehicle Program -no. of vehicles	23,683	17,554	41,237	4,935	46,172
No. of Propane tanks sold	64,480	24,918	89,398	5,104	94,501
No. of conversions by 10 largest firms surveyed	46,800	13,180	59,980	3,330	63,310
No. of manufactured vehicles	5,641	3,223	8,964		8,964

If we take the number of tanks sold and subtract 15% to account for manifolding, we can assume that as of July 1984 there were approximately 76,000 propane vehicles on the road in Canada, and as of October, 1984 approximately 80,500. These figures are supported by adding together the number of conversions reported during the survey and the number of propane vehicles sold by the manufacturers, and allowing for the conversion companies that were not contacted.

III Industrial Growth

The total number of vehicles under the Propane Vehicle Program by fiscal year is:

1981-2		4,666
1982-3		16,161
1983-4		13,814
1984-5	(April to January only)	16,122

There has been a considerable increase in the number of propane vehicles for which federal grants were paid in 1984-5 over 1983-4. This increase can be partially accounted for by personal use and dual fuel vehicles being eligible from April, 1984.

As indicated in figure 8, tank sales have increased slightly, and figure 9 indicates that vehicle manufacturers sold 52% more propane vehicles in 1984 than in 1983.

The number of conversion centres across Canada, according to information derived from the Propane Vehicle Program applications, is shown below:

December 1984	1983	1982
1843	1357	497

These figures are cumulative.

According to the Propane Gas Association of Canada, the number of propane fueling stations in Canada grew by approximately 20% in 1984 to about 4,000. Please note that the figure given in the previous report for fueling stations was incorrect. The amount of propane used for road transport was 358 thousand cubic metres in 1983 according to the National Energy Board and 520 thousand cubic metres in 1984 (see figure 11).

IV Consumer Reactions to Propane

The results of two surveys are included in this section. The first is a questionnaire mailed to owners of dual fuel Ladas who had bought their vehicles between May 1982 and August 1983. The mailing was done in March 1984, and there were sixty replies. The following results were tabulated:

MAIN USE OF VEHICLE:	Personal	71%
	Commuting	25%
	Courier	-
	Delivery	3%
	Taxi	1%
KM DRIVEN/YEAR:	Less than 20,000	39%
	20,000 to 40,000	49%
	More than 40,000	10%
	No comment	2%
OWNERSHIP OF VEHICLE:	Private	96%
	Company 1 or 2 cars	3%
	Fleet 3-20 cars	1%
	Fleet 20 or more	-
USE OF PROPANE:	Less than 25%	2%
	26-50%	6%
	51 to 75%	12%
	76 to 99%	62%
	Always	18%

WHEN YOU DON'T USE PROPANE IS IT BECAUSE OF:

Availability	49%
Price	5%
Convenience	30%
No comment	16%

YOUR NEXT VEHICLE:

Dual Fuel	70%
Propane	7%
Gasoline	11%
Diesel	1%
Natural Gas	0%
No comment	10%

HOW LONG DO YOU EXPECT TO KEEP YOUR DUAL/FUEL LADA?

1 year	2%
2-3 years	26%
More than 3 years	70%
No comment	2%

WHY DID YOU CHOOSE A DUAL/FUEL VEHICLE?

Cost of Fuel	43%
Tax Advantage	22%
Previous Experience	2%
Maintenance Savings	16%
Recommendation of Friend	3%
Recommendation of Salesman	4%
Curiosity	10%

DO YOU HAVE PROBLEMS FINDING PROPANE?

Never	34%
Sometimes	62%
Often	4%

DOES PROPANE MEET YOUR EXPECTATIONS?

Fuel Cost	YES 96%	NO 4%
Availability	YES 78%	NO 22%
Fuel Consumption	YES 73%	NO 27%

The second questionnaire is administered under the Propane Vehicle Program when vehicle audits are carried out to ensure that applicants met with the eligibility criteria. The results were tabulated from 63 completed questionnaires, and the items of interest are noted below:

Mean number of months since conversion 15

Satisfaction with propane:

Very	75%
Somewhat	25%
Not at all	0%

Would you want your next vehicle to run on propane?

YES	100%

Would you prefer a factory installed or converted system in your next vehicle?

Factory Installed	84%
Conversion	16%

PROPANE SUPPLY AND DEMAND

As indicated in Figure 11, the largest use for propane is as a fuel for residential and commercial heating and for industrial processes. Road transport use, while still relatively small, is growing and now accounts for approximately 10% of domestic propane use. Use of propane in enhanced oil recovery is expected to grow during the 1980's, peak in the early 1990's and decline thereafter. Petrochemical use of propane will continue to expand and contract with petrochemical activity and in response to relative prices of competing feedstocks. As the petrochemical industry plans to use mainly butane and ethane, no major increases in petrochemical use of propane are expected. About 40 percent of domestic propane production is exported, and exports are subject to control by the National Energy Board.

FIGURE 11

PROPANE SUPPLY AND DEMAND (1984)

Supply	Thousand Cubic Metres	Percent	Percent
Gas Plant Production	6,016	80	
Refinery Production	1,481	20	
TOTAL PRODUCTION	7,497	100	100

Propane Pricing

The wholesale price of propane, unlike the price for crude oil and natural gas products, is not set by government agreement but by the industry. Producers appear to price it to follow the price of No. 2 fuel oil, still propane's major market competitor, with an upper limit established by export prices. As Alberta gas-based propane accounts for 80 percent of supply, wholesale prices throughout Canada are set to meet competition out of Alberta. The federal government monitors both wholesale and retail prices across the country.

Unless specified, it should be noted that the retail prices cited in this section are based on the posted prices established by propane suppliers, and not on actual pump prices at specific outlets. Thus the retail price figures used in these tables can differ significantly from the actual selling price in some locations. There is also a significant variation in propane prices regionally, depending largely on the distance the fuel must be transported from source.

FIGURE 13

COMMERCIAL PRICES FOR PROPANE AND REGULAR UNLEADED GASOLINE IN SOME CANADIAN CITIES[1]

		Vancouver		Calgary		Regina		Winnipeg		Toronto		Montréal		Halifax	
		Prop.[2]	Gas[3][4]	Prop.[2]	Gas[3]	Prop.[2]	Gas[3]	Prop.[2]	Gas[3]	Prop.[2]	Gas[3]	Prop.[2]	Gas[3]	Prop.[2]	Gas[3]
Dec.	81	28.1	40.2	18.8	33.8	28.3	40.1	26.2	40.0	22.9	40.9	35.9	48.4	29.7	38.8
Jan.	82	28.1	40.7	18.8	33.8	28.4	40.1	26.2	40.0	22.9	41.0	35.9	48.4	29.7	38.8
Feb.		28.1	40.7	18.8	33.8	28.4	40.1	26.2	40.0	22.9	41.0	35.9	48.4	29.7	38.8
March		28.1	43.3	18.8	36.5	28.4	42.8	26.2	42.7	22.9	43.7	35.9	51.1	29.7	41.7
April		22.5	43.4	17.8	36.5	27.4	42.7	25.2	42.7	20.9	44.0	34.9	51.2	29.7	41.7
May		22.5	43.4	17.8	36.5	21.0	36.3	25.2	42.9	20.9	44.0	34.9	51.2	32.8	44.8
June		23.5	43.4	18.8	36.5	22.0	36.3	26.2	42.9	22.4	44.0	36.4	51.2	32.8	44.8
July		25.1	43.7	20.4	36.5	24.0	36.3	28.2	42.9	23.2	44.1	38.4	52.6	32.8	44.8
Aug.		25.1	45.6	20.4	36.5	24.0	37.8	28.2	44.5	23.2	45.7	38.4	54.1	32.8	47.1
Sept.		27.4	45.6	22.9	37.7	26.2	37.8	30.4	44.5	26.9	45.7	40.6	54.1	35.2	47.1
Oct.		27.4	45.8	23.9	37.7	26.2	37.8	30.4	44.5	26.9	46.2	41.6	55.1	35.2	46.9
Nov.		28.8	45.8	23.9	37.7	26.2	37.8	30.4	44.5	26.9	46.2	41.6	55.1	35.2	46.9
Dec.		28.8	46.1	23.9	38.0	27.2	38.1	31.4	44.8	26.9	46.5	41.6	55.4	35.2	46.9
Jan.	83	28.8	44.0	23.9	35.8	27.2	35.9	31.4	42.6	26.9	44.6	41.6	53.5	35.2	45.3
Feb.		28.8	44.0	23.9	35.8	27.2	35.9	31.4	42.6	26.9	44.6	39.5	51.7	35.2	45.0
March		29.8	47.4	25.1	39.3	27.2	39.3	31.4	46.0	26.9	48.1	42.8	55.2	35.2	48.2
April		29.8	47.9	25.1	39.3	27.2	39.3	31.4	47.1	26.9	47.9	42.8	57.4	34.9	47.9
May		29.8	47.9	25.1	39.3	27.2	39.3	31.4	47.1	26.9	47.9	38.0	57.4	35.9	47.9
June		29.8	47.9	25.1	39.3	27.2	39.3	31.4	47.1	26.9	47.9	39.0	57.4	35.9	48.6
July		30.8	47.9	26.1	39.7	28.5	39.7	34.2	47.5	28.9	48.6	39.0	57.8	37.6	49.0
Aug.		30.8	47.9	26.1	39.7	28.5	39.7	34.2	47.5	28.9	48.6	39.0	57.8	37.6	49.0
Sept.		30.8	47.9	26.1	39.7	28.5	39.7	34.2	47.5	28.9	48.6	39.0	57.8	37.6	49.0
Oct.		31.2	49.0	26.1	39.7	28.5	39.7	35.2	47.5	28.9	48.9	39.0	57.8	37.6	49.0
Nov.		31.2	49.0	26.1	39.7	28.5	39.7	35.2	47.5	28.9	48.9	36.3	53.6	37.6	49.0
Dec.		31.2	49.3	26.1	40.0	28.5	40.0	35.2	47.8	28.9	49.2	36.3	53.9	37.6	49.3
Jan.	84	31.7	50.1	26.1	40.9	28.5	40.8	35.2	48.8	28.9	50.3	36.3	54.5	37.6	50.1
Feb.		31.7	50.1	26.1	40.9	28.5	40.8	35.2	48.8	28.9	50.3	36.3	54.5	37.6	50.1
Mar.		31.7	50.1	26.1	40.9	28.5	40.8	35.2	48.8	28.9	50.3	36.3	54.5	37.5	50.3
Apr.		28.9	50.1	26.3	40.9	28.5	40.8	35.2	48.8	28.9	49.9	36.3	54.5	37.5	50.3
May		28.9	50.3	26.3	41.1	28.5	41.0	35.2	49.0	28.9	50.1	36.3	54.7	37.5	50.5
June		28.9	50.3	26.3	41.1	28.5	41.0	35.2	49.0	28.9	50.1	36.3	54.7	37.5	50.5
July		28.9	50.9	26.3	41.7	28.5	41.6	35.2	49.6	28.9	51.2	36.3	55.4	37.5	51.2
Aug.		28.9	50.9	26.3	41.7	28.5	41.6	35.2	49.6	28.9	51.2	36.3	55.4	37.5	51.2
Sept.		30.4	50.9	27.6	41.7	28.5	41.6	35.2	49.6	28.9	51.2	36.3	55.4	37.6	51.2
Oct.		30.4	51.3	27.6	42.0	28.5	41.9	35.2	49.9	28.9	51.5	36.3	56.6	37.6	51.6
Nov.		30.4	53.5	28.0	44.2	28.5	44.1	35.2	52.1	28.9	53.7	36.3	58.8	37.5	53.7
Dec.		30.4	53.5	28.0	44.2	28.5	44.1	35.2	52.1	28.9	53.7	36.3	58.8	42.4	54.2

NOTES: (1) Including all road taxes. Prices represent month-end values.
(2) Prices to commercial customers at distributor pumps.
(3) Estimated theoretical pump prices are based on the posted dealer tankwagon price plus an estimated dealer margin, and includes provincial sales tax, federal sales tax but excludes the federal excise tax which is refundable for commercial purposes. Prices shown in the versions of this report prior to September 1982, do not have the estimated dealer margin. Commercial gasoline values in no way reflect trade discounts that would apply to commercial users.
(4) Includes an urban transit tax applicable in the Greater Vancouver Area.

SOURCE: E.M.R., Petroleum Products Marketing Division

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FIGURE 14

A COMPARISON OF COMMERCIAL PROPANE AND GASOLINE

PRICES IN SELECTED CANADIAN CITIES(1)

December 1984

(Cents per Litre)

	Propane		Gasoline(2)	
	Retail Price	Gasoline(3) Equivalent Price	Regular	Unleaded
Yellowknife	34.9	41.9	53.9	55.7
Whitehorse	44.0	52.8	53.9	55.7
Victoria	34.4	41.3	51.0	52.8
Vancouver	30.4	36.5	51.7	53.5
Kamloops	33.0	39.6	51.6	53.4
Edmonton	28.0	33.6	42.1	43.9
Calgary	28.0	33.6	42.4	44.2
Saskatoon	29.0	34.8	42.7	44.5
Regina	28.5	34.2	42.3	44.1
Brandon	34.5	41.4	51.4	53.2
Winnipeg	35.2	42.2	50.3	52.1
Peterborough	29.0	34.8	51.6	53.8
Toronto	28.9	34.7	51.5	53.7
Ottawa	29.0	34.8	52.3	54.5
Montréal	36.3	43.6	56.5	58.8
Québec	36.6	43.9	57.2	59.5
Saint John	36.7	44.0	53.1	55.4
Halifax	42.4	50.9	52.4	54.2
St. John's	47.0	56.4	55.9	57.7

NOTES:

1) Prices represent month-end values.

2) Estimated theoretical pump prices are based on the posted dealer tankwagon price plus an estimated dealer margin, and includes provincial sales tax, federal sales tax but excludes the federal excise tax which is refundable for commercial purposes. Prices shown in the versions of this report prior to September 1982, do not have the estimated dealer margin.

Commercial gasoline values in no way reflect trade discounts that would apply to commercial users.

3) Delivered energy equivalence of 1.2 litres of propane for each litre of gasoline.

SOURCE: E.M.R., Petroleum Products Marketing Division

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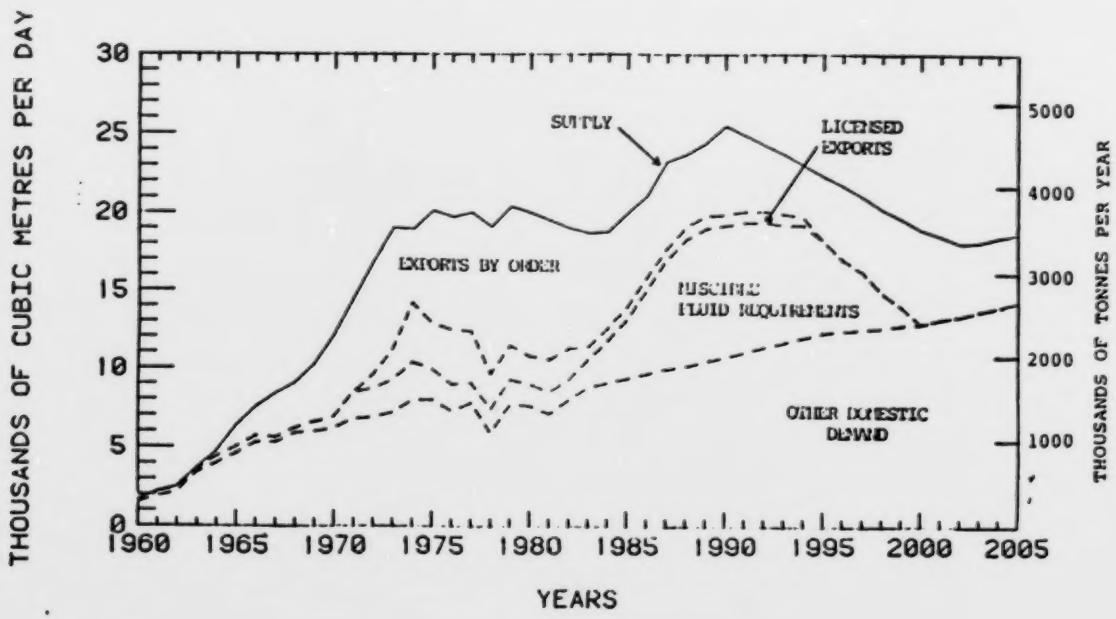
Demand			
Petrochemical Industry	523	12	
Enhanced Oil Recovery	582	14	
Residential, Commercial and Industrial Uses	2,694	62	
Road	520	12	
TOTAL CANADIAN DEMAND	4,319	100	58
Exports			
Amount Available for Export	3,178		42

Source: National Energy Board, 1984

As shown in Figure 12, Canada will have adequate supplies of propane to meet its requirements over the next twenty years. Propane availability depends heavily on natural gas throughputs since natural gas is the source of 80% of Canadian propane production. The current supply projection is based upon continued levels of natural gas sales into domestic and export markets. On the demand side, while growth is anticipated, (especially for transportation purposes), it is expected to remain sufficiently below available supply to provide a comfortable cushion.

FIGURE 12

PROPANE SUPPLY/DEMAND



Source: NEB, Autumn, 1984

FIGURE 15
PROPANE - DECEMBER 1984
AVERAGE RETAIL (PUMP) PRICES
(CENTS/LITRE)

Charlottetown, P.E.I.	50.0
Halifax, N.S.	40.7
Sherbrooke, Quebec	38.4
Montreal, Quebec	38.4
Ottawa, Ontario	24.9
Toronto, Ontario	26.7
Winnipeg, Manitoba	29.5
Regina, Sask.	27.1
Edmonton, Alberta	20.3
Vancouver, B.C.	27.1

As indicated in Figure 16, retail propane prices have been further assisted in Ontario, British Columbia and the Northwest Territories by remission of the provincial road tax. Federal taxes amount to less than 1¢ per litre.

Figure 16 : Motor Vehicle Taxes on Propane by Province

(as of December 1, 1984)

	Propane		Gasoline			
			Regular		Unleaded	
	Amount ¢/l	Rate (%)	Amount ¢/l	Rate (%)	Amount ¢/l	Rate (%)
British Columbia (a,c)	-	-	7.72	20	7.72	20
Alberta	-	-	-	-	-	-
Saskatchewan	-	-	-	-	-	-
Manitoba	4.5	Fixed	7.5	Fixed	7.5	Fixed
Ontario (a)	-	-	8.0	20	8.4	20
Quebec (a)	8.3	30	12.9	30	13.4	30
New Brunswick (a)	4.5	13	8.2	20	8.7	20
Nova Scotia (b)	9.6	20	9.6	20	9.6	20
Prince Edward Island (b)	10.7	22	10.7	22	10.7	22
Newfoundland	10.5	22	10.5	22	10.5	22
Yukon Territory	4.2	Fixed	4.2	Fixed	4.2	Fixed
N.W.T.	-	-	6.5	Fixed	6.5	Fixed

a = Ad Valorem

b = Ad Valorem based on the average of gasoline prices.

c = An additional Urban Transit Tax of 0.95¢/l on retail gasoline sales is applicable in the Greater Vancouver Area.

APPENDIX I

Propane Options Available from Vehicle Manufacturers

The following is a description of the various models of propane vehicles available from each of the vehicle manufacturers.

FORD

Ford offered the propane engine option on their 1984 LTD and Marquis models at an additional cost of approximately $1,200.00.

Ford also offered a 370 and 429 cubic inch medium to heavy truck in the F, L and LN series at a cost of $1,200.00 to $1,850.00. They produce a propane preparation package on many of their other trucks.

Ford will not sell propane passenger vehicles in 1985, although the propane vehicle preparation package is still available.

CHRYSLER

Chrysler offers trucks, vans and cars with a propane option direct from the factory. The following full size van or wagon vehicles are available with a propane option: Engine V8 3 litre Model B-150, B-250, B-350, Engine V8 318 cu in D-150, D-250, D-350 W-1, 2 + 350 (4 x 4). The M body Caravelle/Diplomat are available with either a 2 or 4 barrel 318 cu in engine. The K body front wheel drive Aries or Reliant with a 2.2 litre engine. The approximate additional cost for cars and light trucks is $1,450.00 to $1,500.00.

INTERNATIONAL HARVESTER

IHC until 1984, offered mid-range trucks in the Motor Vehicle Manufacturers' Association GVWR Groups 6, 7, 8 with V-345 and V-392 engines with a propane option direct from the factory. The propane option increased the retail price of the vehicles by approximately $1,400.00. IHC are no longer producing propane vehicles.

LADA

Lada offers a dual fuel, propane-gasoline installation on their 1450 cc and 1600 cc engines as well as on the 1600 Sedan, the four wheel drive "NIVA" and the Signet. The additional cost for all available models is $1,200.00.

GENERAL MOTORS

This was the first full year of propane sales for GM. At this time only the 350 CC pick up truck is offered with propane. However GM may introduce the 1 ton van on propane in model year 1985. Approximate additional cost for the propane option is $1,400.00.